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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/649,793

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EXAMINER

VILAKAZI, SIZO BINDA

ART UNIT

PAPER NUMBER

3747

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/649,793	Applicant(s) COLE ET AL.	
	Examiner SIZO B. VILAKAZI	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 34-36, 42-44 and 48-65 are rejected under 35 U.S.C. 102(b) as being anticipated by Scofield (1,924,462).

3. Scofield discloses, as in claim 34, A generator for an engine comprising a flywheel (11) configured so that a mass of rotatable magnets (21) and adjacent magnetic material (35) operatively associated with the magnets provide rotational inertia and have a permanent magnet rotor function to constitute a unitary flywheel-alternator assembly for alternator power generation

4. Regarding claim 35, an inner portion of the flywheel is made from a lightweight material and constitutes the only structural member connecting the rotatable magnets and associated magnetic material with a crankshaft of the engine.

5. Regarding claim 36, the unitary flywheel-alternator fan assembly is the sole component driven by the engine.

6. Regarding claim 42, wherein said inner portion also functions as a cooling fan or blower to create the necessary air flow rate and air pressure rise necessary to force

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cooling air over selected areas of the engine, the selected engine areas comprising at least one of an oil reservoir, electronics, cylinder head(4), and engine block. (See Figures 1-6)

7. Regarding claim 43, the engine is an internal combustion engine.
8. Regarding claim 44, wherein the cooling fan is selected from the group consisting of a centrifugal fan, an axial fan and a mixed flow fan.
9. Regarding claim 48, wherein the cooling fan provides a mechanical link between the rotational magnets and a mounting portion of the flywheel.
10. Regarding claim 49, wherein a lightweight alloy in the cooling fan constitutes the mechanical link and magnetic material of the alternator's rotor provides the inertia component.
11. Regarding claim 50, wherein the alternator is a permanent magnet alternator.
12. Regarding claim 51, wherein the alternator rotor, inertial material and fan or blower constitute a multi-piece construction of lightweight material, magnetic material, and magnets.
13. Regarding claim 52, wherein the lightweight alloy is an aluminum alloy.
14. Regarding claim 53, wherein the alternator is a radial gap, twelve-pole alternator.
15. Regarding claim 54, wherein means is provided for converting alternating current produced by the alternator into direct current. (See lines 7-9, column 1)
16. Regarding claim 55, wherein the converting means comprises rectifiers (46).

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17. Regarding claim 56, wherein an engine cowling (42) is provided to function as at least two of a fan shroud, a fan scroll, a distributor to cool the engine and the alternator, an electronic cold plate and one or more coolant ducts. (See lines 21-24, column 3)
18. Regarding claim 57, wherein the distributor function of the engine cowling separates air flow to cool at least two of an engine head, cylinder wall of the engine, electrical components, and an oil sump.
19. Regarding claim 58, wherein at least one coolant duct is associated with the oil sump which includes fins in the duct channel to enhance cooling.
20. Regarding claim 59, wherein the converting means is arranged at the engine cowling.
21. Regarding claim 60, wherein the alternator is configured to produce three- phase power in parallel circuits.
22. Regarding claim 61, wherein the converting means comprise full-wave rectifiers.
23. Regarding claim 62, wherein an engine cowling (42) is provided to function as at least two of a fan shroud, a fan scroll, a distributor to cool the engine and the alternator, an electronic cold plate and one or more coolant ducts. (See lines 21-24, column 3)
24. Regarding claim 63, wherein the converting means is arranged at the engine cowling(cover 42).
25. Regarding claim 64, wherein a backpack mounting is provided for the engine and alternator.
26. Regarding claim 65, wherein the engine and alternator are configured to produce a power output of up to about 5 kw.

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scofield (1,924,462). Scofield discloses the claimed invention except the magnetic material being steel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use steel magnetic material in the Scofield reference, since it is well known in the art as a magnetic material.

29. Claim 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scofield (1,924,462). Scofield discloses the claimed invention except the magnetic material being steel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the material combinations for the flywheel as set forth, since applicant has not disclosed that the material combinations solve any stated problem and it appears that the invention would perform equally as well with the chrome magnets and aluminum flywheel as taught by Scofield.

30. Claims 45-47, 66 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scofield (1,924,462) in view of Yamada et al (US PG Pub 2004/0021320 A1)

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31. In re Claim 45 Scofield discloses the claimed invention except for the engine cowling which functions as a fan shroud.

32. However, Yamada et al. disclose an engine cowling provided to function as at least two of a fan shroud, a fan scroll, a distributor to cool the engine and alternator, an electronic cold plate and one or more coolant ducts (Paragraphs [0048] and [0057])

33. Therefore it would have been obvious to modify the generator disclosed by Scofield with the cowling disclosed by Yamada et al. in order to more efficiently cool the engine.

34. In re Claim 46, Yamada et al. disclose a generator wherein the distributor function of the engine cowling separates air flow to cool at least two of an engine head, cylinder wall of the engine, oil sump and electronics.

35. In re Claim 47, Yamada et al. disclose a generator wherein a fan shroud for the cooling fan is operatively associated with the engine cooling to force air through the engine cowling.

36. In re Claim 66 Scofield discloses the claimed invention except for the rollcage mounting

37. However, Yamada et al. disclose a portable power generator wherein a roll cage mounting is provided for the engine and alternator (Paragraph [0055]).

38. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system disclosed by Scofield with the rollcage mounting disclosed by Yamada et al. in order to provide secure mounting for the generator.

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39. In re Claim 67, Scofield/Yamada et al. do not explicitly disclose a portable power generator wherein the engine and alternator are configured to produce a power output of up to about 15 kW.

40. However, It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the engine and alternator to produce a power output of up to about 15 kW, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

41. Applicant's arguments filed 02/27/2007 have been fully considered but they are not persuasive.

42. In response to the arguments that “the only thing associated with the bar magnets 21 is the non-magnetic aluminum frame wheel which is not intended to have and does not provide a flywheel effect or rotation inertia and also a permanent magnet rotor function”, the examiner disagrees. Scofield discloses the armature coils 35, which are adjacent to and operatively associated with the bar magnets and provide rotational inertia and a permanent magnet rotor function.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SIZO B. VILAKAZI whose telephone number is (571)270-3926. The examiner can normally be reached on M-F: 10:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen K. Cronin can be reached on (571) 272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SIZO B VILAKAZI/
Examiner, Art Unit 3747

/Stephen K. Cronin/
Supervisory Patent Examiner, Art Unit 3747